REMARKS

Applicant hereby responds to the Office Action dated January 3, 2005 under 37 C.F.R. § 1.111. By this Response, Applicant has amended claims 1, 3-4, 7-9, 11, 18-20 and 22, and has cancelled claims 5-6 without prejudice or disclaimer. Applicant has amended the independent claims to clarify the "average time" aspects of the invention, and has amended the various dependent claims to conform their language to the parent claims and to remedy other minor issues of clarity and style. In particular, Applicant thanks the Examiner for noting the typographical error in claim 22, which has been corrected in this Response. These amendments are not narrowing in nature nor are they made for purposes relating to patentability. As a result, these amendments do not affect he scope of any legal equivalents to which Applicant would otherwise be entitled. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

The Office Action cited the combination of US Patents 6,172,602 ("Hasfjord"), 6,484,127 ("Langervik") and 6,614,345 ("Kimata") against the prior-pending claims. Applicant respectfully replies that even if these three references were combined, the combination would fail to describe each and every element of the presently-claimed invention. In particular, no reference describes at least the feature of *determining an average time for a fluid pressure in said engine to reach a predetermined level following startup of the engine* as effectively recited in each of the pending claims.

The present invention relates to methods, systems and software for detecting an oil filter change in a vehicle. As described by the present claims, the invention detects an oil filter change by observing a variation from an average amount of time for the oil pressure to reach a predetermined level after the vehicle is started. Unlike other filter detection schemes based upon "hardcoded" time values, the present invention bases its determination upon average information obtained from the vehicle itself. That is, the claimed inventions determine an average time for the oil pressure to reach the predetermined value, and then subsequently identify a filter change if a variation from the average value is observed. This averaging feature is described in the Specification and Claims as originally filed at least at paragraph 0023 and in original claim 6.

Because the invention identifies filter changes based upon variation from average time, various embodiments are capable of realizing certain benefits that were not previously available from other filter change detection schemes that relied upon hardcoded time values. The determined average value allows the invention to obtain a highly reliable "baseline" reference for the time to reach the pre-determined value, for example, therefore resulting in highly reliable filter change detection. Because the "average" value is determined during operation of the actual vehicle of interest, the average is able to reflect the particular driving style and environmental conditions experienced by the individual vehicle. If a vehicle is driven unusually aggressively or in dusty offroad conditions, for example, these factors will be reflected in the average time value. Similarly, variations in oil pressure caused by varying brands of oil or oil filters can be readily incorporated into the average computation. Still further, changes in oil pressure as the vehicle ages can be readily compensated with the averaging feature. This level of individuality and accuracy could never be matched by a universal baseline value that is pre-programmed into the vehicle at the factory. The averaging feature also allows for a single software routine to be used on multiple vehicle and engine models without requiring updating of the "baseline" time period, thereby improving flexibility and ease of deployment across an entire product line or fleet of vehicles. The benefits achieveable with the present invention, then, have not been realized in the prior art.

The Office Action acknowledges (at the top of Page 3) that the primary reference, Hasfjord, fails to disclose a detailed technique for monitoring a change in fluid pressure. The Office Action simply describes Kimata with regard to a reset switch, and does not allege that Kimata relates to the other aspects of Applicant's invention. Although the Langervik reference cited in the Office Action admittedly discloses a technique for detecting oil filter changes, the technique described in Langervik fails to disclose the averaging aspects of the presently-claimed invention. To the contrary, the Langervik reference recognizes an oil filter change by determining whether the time to obtain a desired oil pressure exceeds a "normal" value (T_N) (see FIG. 2). This value of T_N, then, acts as a time threshold that is used to identify whether the filter has been changed. Interestingly, Langervik does not describe the T_N parameter in any significant detail, and certainly makes no mention whatsoever of determining this value using an average of previous time measurements. On FIG. 3, Langervik does state that T_N is a "pre-

defined 'normal' time to reach [the target pressure]". Further, Langervik states (at col. 4, lines 36-40) that "For a given pressure P the time T_N...normally required to achieve oil pressure...can be easily recorded". These statements strongly imply that Langervik intended T_N to be an empirically recorded pre-determined value rather than a computed average of prior values. The statements on page 4 of the Office Action relating to Langervik's disclosure of the averaging feature previously recited in claim 6, then, are not supported by the reference. To the contrary, Langervik fails to describe averaging in any manner whatsoever, and in fact describes the "normal time" as a recorded, "predetermined" value that is not computed from the particular engine of interest.

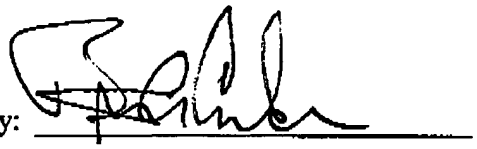
Because none of the cited references contains any reference to the averaging features found in the present claims, even the combination of the three references would fail to fairly disclose each and every element of Applicant's claims. Applicant therefore respectfully requests reconsideration in view of the above remarks and the amendments to the claims.

Because the shortened statutory deadline for response without additional fee fell on Sunday, April 3, 2005, Applicant's response on the following Monday, April 4, 2005, is timely. Although no fee or extension is believed to be required at this time, please consider this as a request for an extension of time and as authorization to charge Deposit Account No. 50-2091 for any fee that may be due to prevent abandonment of this Application.

Should the Examiner have any questions or wish to further discuss this application, the undersigned attorney would welcome a phone call or email.

Respectfully submitted on behalf of
GENERAL MOTORS, INC., ASSIGNEE,

Dated: 4/4/2005

By: 

Name: Brett A. Carlson

Reg. No.: 39,928

Telephone: (480) 385-5060